PROTOMERULIUS FARLOWII BURT, N. SP.[1]

EDWARD A. BURT

Mycologist and Librarian to the Missouri Botanical Garden
Professor in the Henry Shaw School of Botany of
Washington University

During his last illness and only two days before his death, Dr. Farlow had mailed to me a very interesting fungus which he collected near his summer home at Chocorua, New Hampshire. This fungus, which I have named *Protomerulius Farlowii*, has apparently more minute pores than have been recorded for any species heretofore described. The pores are so minute that to the naked eye the fructification has the aspect of a very thin *Sebacina* with its hymenial surface slightly pruinose. This pruinose surface becomes barely visible as irregularly angular and somewhat sinuous pores with very thin dissepiments when viewed through a pocket magnifier of fine definition having a magnification of 10 or more diameters, and is beautifully shown under the compound microscope with an objective of about 16 mm. focal distance.

Under this higher magnification the dissepiments appear as thin, irregular folds up to 30 μ high and about 20 μ thick, with the edge acute and lacerate. The angular pores are incompletely enclosed by the dissepiments; the hymenial configuration is that of *Merulius* rather than *Poria*.

Preparations of the hymenium show longitudinally cruciately septate basidia 9–10$\times$7 μ. Hence this fungus is a member of the *Tremellaceae* and has the hymenial configuration of a *Merulius*.

A. Möller collected at Blumenau, Brazil, a fungus having the form of a *Merulius* and longitudinally cruciately septate basidia, which he published[2] as *Protomerulius brasiliensis* new genus and species. Although the hymenial folds and pores are much smaller and less perfectly developed than those of *Protomerulius brasiliensis*, the generic description of *Protomerulius* applies well to the New Hampshire specimen.

Although 24 years have elapsed since the publication of *Proto-*

[1] Issued October 11, 1919.

[2] Bot. Mitt. a. d. Tropfen 7:60. 1895; 8:129, 172. *pl. 3. f. 3, 4, pl. 5. f. 36.*

merulius I fail to find record that collections referable to this genus or its single species have been made elsewhere in this rather long interval of active mycological exploration. It is therefore remarkable that the presumably tropical genus *Protomerulius* should have so noteworthy a species as *P. Farlowii* in northern New Hampshire at a rather high altitude.

The color of the specimens of *P. Farlowii* is noted as purple when in vegetative condition and suggestive in aspect of a species of *Tulasnella*, but this color was soon lost in drying and the specimens are now pale olive-gray of Ridgway. The fructifications occur on the surface of decayed coniferous wood, on the rough surface of which a slender foliaceous hepatic is present also.

Vertical sections through the fructification and substratum show the fructification to be a continuous compact membrane 10–15 μ thick; this membrane is composed of longitudinally arranged, thin-walled, hyaline hyphae crowded closely together. Branches from the hyphae of this membrane curve outward here and there and terminate in clusters of basidia. The basidia are somewhat interruptedly arranged in the hymenium rather than densely. At intervals of about 40 μ hyphae grow outward from the membrane to form the tramal tissue of the folds or dissepiments. These folds are about 30 μ high and 20 μ thick and covered by the hymenium. The membranous layer of the fructification is elevated about 40 μ above the surface of the wood and supported by groups of hyphae which arise from the substratum. These details are shown in the accompanying text-figures.

The formal description of this species is as follows:—

Protomerulius Farlowii Burt, n. sp.

Type: in Farlow Herb. and Mo. Bot. Gard. Herb.

Fructifications resupinate, effused, gelatinous, membranaceous, very thin and tender, separable with care when moist, "purple" when fresh, becoming pale olive-gray upon drying, pruinose to the naked eye, but showing under the microscope an imperfectly porose surface with thin, irregular folds and dissepiments more or less lacerate, the edges thin; pores angular-sinuose, about 40 μ in diameter or 25 to a mm.; in structure 20–30 μ thick, with a compact subhymenial layer 10–15 μ thick,

composed of densely and longitudinally arranged, hyaline, thin-walled hyphae 3 μ in diameter; subhymenial layer elevated above the substratum by scattered clusters of hyphae; basidia longitudinally cruciately septate, 9–10 $\times$ 7 μ, with slender sterigmata; spores hyaline, even, subglobose, 6 $\times$ 5 μ.

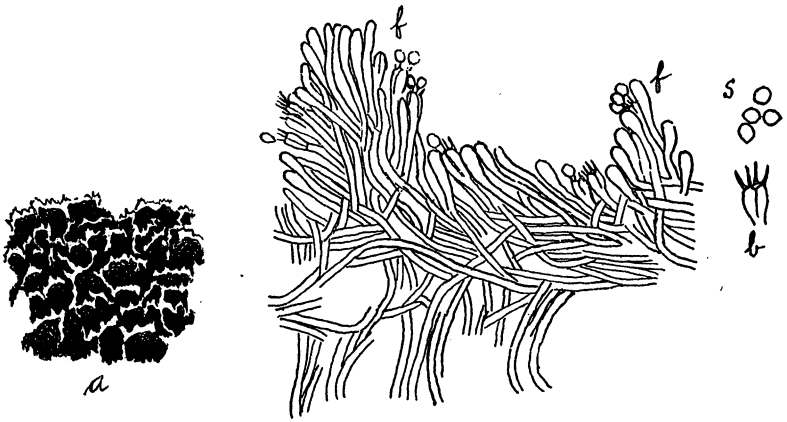

Fig. 1. *P. Farlowii*. *a*, fructification viewed from above, showing pores in black and folds and dissepiments in white, $\times$ 68; *f* and *f*, section of fructification showing pore between folds, $\times$ 375; *b*, basidium, and *s*, spores, $\times$ 375.

Fructifications in small gregarious patches 2–10 mm. in diameter.

On very rotten, decorticated, coniferous wood. New Hampshire. September. Probably very rare.

P. Farlowii should be recognized in the field by its purple color and aspect of *Tulasnella*, and the pruinose surface which is shown by a good lens to have the surface configuration of *Merulius*. The very minute, angular pores, thin and lacerate dissepiments with acute edges, the very small fructifications, and purple color when fresh separate this species from *P. brasiliensis*.

Specimens examined:

New Hampshire: Chocorua, *W. G. Farlow*, 6*, type (in Farlow Herb. and in Mo. Bot. Gard. Herb., 55596).